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Abstract

The present study is consulted to measure the concentration of Cd , Zn and Cu in Workers Blood samples of The General Company for fertilizer industry /Northen region , Baiji . Blood samples were collected from (289) workers of this company then divided to five groups according to the site of work , the workers also divided to two groups according to exposure periods: (5) and (10) years.

The results showed a significant increase in the concentration of Cadmium in exposed workers through exposure periods (5) and (10) years in Ammonia factory and utility unite group, Urea factory and Packing unit group and Maintenance and workshops in comparison with control group. According to Zinc concentration , the results showed a significant increase in all groups except Administration departments group, while , the concentration of Copper were decreased through exposure periods in Ammonia factory and utility unite, Urea factory and Packing unit and Maintenance and workshops group comparing with the control groups .

(289)

(10) (5)

(10) (5)

Trace

(Under Woeder, 1977) (16)

(Bralter and Schramel , 1983)

Sulphydryl group

Phosphatyl , Histidyl , Carboxyl , Cysteinyll

(Chowdhury and Louria , 1976)

(Tibbits and Milroy , 1980)

Metallothionein

Sulphydryl group

Wolf *et al* ,2000 ; Fucikova *et al* ,)

(1995)

. (2002 ,)

Lactic dehydrogenase ,

Miller) Carboxy peptidase , Carbonic anhydrase , Alcohol dehydrogenase

.(et al ,2000 ; Murray et al , 2000

(Bryce ,1989)

Carbonic anhydrase

CO₂

Hydrations

(Maren, 1976)

.(Sly and Hu , 1995)

(2002,)

(Schauss ,1995)

Cytochrome oxidant

Elastin Collagen

Balch ,)

(1997

.(MRI,2003)

)

(

() /

	2003	2002
	(38)	.(1)
.	(50)	
:		
.	(5)	::
.	(10)	::

Prise ,)

(Rand , 1976 ; Kunnath and Jeam , 1981) (1972

(2)	(50)	(1)
-----	------	-----

	(25)	
	(25)	
		(25)
Hitachi	(180-30)	Atomic absorption
288.8		
	324.8	213.8

.0.05

(2)

(10) (5)

% 30 – 15

. (Hiatt and Juff , 1975)

Blainey *et al*)

(WHO, 1986)

(*al* , 1980)

(10)

(5)

Shukla *et al* 2000 ;)

. (2002)

.(Horiguchi *et al* , 1996

(3)

(10) (5)

. (Gossel and Briker ,1984)

Desulfrizer

.(Technical Data Manual , 1988)

(2002)

(4)

Cytochrome oxidase

Nielsen *et al* , 2003 ; MRI,)

(2003 ; Johnson and Fisher , 1998
(2002)

Horiguchi et)

(al , 1996 ; Chowdhury and Louria , 1976

(1)

()	()		
35	54-22	67	
36	56-22	73	
30	52-20	39	
38	56-23	74	.
34	48-23	36	
32	48-21	38	()

(2)

(/)

10	5		
23.33±1.30 ^a	23.33±1.30 ^a	38	-----
42.59±3.18 ^b	29.92±2.20 ^b	67	
39.51±3.20 ^b	31.95±1.85 ^b	73	
31.06±3.74 ^a	21.39±1.69 ^a	39	
49.06±2.90 ^c	30.97±1.73 ^b	74	
23.91±1.57 ^a	23.64±1.68 ^a	36	

(0.05)

(3)

(100 /)

10	5			
149.66±6.50 ^a	149.66±6.50 ^a	38		-----
236.37±17.30 ^b	218.41±17.16 ^b	67		
231.53±11.87 ^b	217.90±14.25 ^b	73		
228.17±22.80 ^b	165.64±6.64 ^c	39		
270.11±15.84 ^b	187.51±9.27 ^b	74		
161.69±7.50 ^a	152.58±12.02 ^a	36		

(0.05)

(4)

(100 /)

10	5			
144.48±7.58 ^a	144.48±7.58 ^a	38		-----
136.17±10.83 ^b	138.59±12.96 ^b	67		
134.58±4.47 ^b	136.19±4.58 ^b	73		
142.12±7.33 ^a	143.19±4.82 ^a	39		
118.99±5.61 ^c	124.90±3.78 ^c	74		
143.28±2.01 ^a	141.40±12.38 ^a	36		

(0.05)

(2002)

278 – 272 (2) (2)

(2002)

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